

No. 09/724,894 is a continuation-in-part of U.S. Patent Application No. 09/216,193, entitled "METHOD AND SYSTEM FOR CONTROLLING PRESENTATION OF INFORMATION TO A USER BASED ON THE USER'S CONDITION" and filed December 18, 1998, and a continuation-in-part of U.S. Patent Application No. 09/464,659, entitled "STORING AND RECALLING INFORMATION TO AUGMENT HUMAN MEMORIES" and filed December 15, 1999, both of which are hereby incorporated by reference in their entirety.

U.S. Patent Application No. 09/724,894 also claims the benefit of provisional U.S. Patent Application No. 60/194,004 (Attorney Docket No. 294438020US), entitled "MANAGING INTERACTIONS BETWEEN COMPUTER USERS' CONTEXT MODELS" and filed April 2, 2000, and of provisional U.S. Patent Application No. 60/193,999 (Attorney Docket No. 294438008US entitled "OBTAINING AND USING CONTEXTUAL DATA FOR SELECTED TASKS OR SCENARIOS, SUCH AS FOR A WEARABLE PERSONAL COMPUTER" and filed April 2, 2000, both of which are hereby incorporated by reference in their entirety.

In the Claims:

~~Please cancel claims 1-65.~~

Please add the following claims:

66. (New) A method in a wearable computer for providing information about a current state of a group having multiple distributed members, the current state modeled with multiple state attributes that each represent an aspect of the current state, the modeling of the current state of the group using information from multiple remote characterization systems that each model a current state of one of the members of the group and that each include modules to supply values related to the current state of that one group member, the method comprising:

receiving an indication of one of the multiple state attributes that model the current state of the group;

determining multiple of the members of the group that have current states that are related to the current state aspect represented by the indicated one state attribute; for each of the determined group members,

identifying the characterization system that models the current state of that group member; and

gathering current state information for that group member from the identified characterization system such that the gathered state information is related to the current state aspect represented by the indicated one state attribute;

generating a value for the indicated one attribute based on the gathered state information; and

providing an indication of the generated value of the indicated one state attribute so as to provide information about the aspect of the modeled current state of the group that is represented by the indicated one state attribute.

67. (New) The method of claim 66 wherein a user of the wearable computer is one of the members of the group, and including executing a characterization system that models the current state of the user with server modules that supply values related to the current state of the user and client modules that process the supplied values.

68. (New) The method of claim 67 wherein the gathering of the current state information from an identified characterization system includes the executing characterization system obtaining that current state information from the identified characterization system.

69. (New) The method of claim 66 wherein each of the remote characterization systems executes on a distinct wearable computer.

70. (New) The method of claim 66 wherein the determined members of the group include all of the members.

71. (New) The method of claim 66 wherein each of the characterization systems executes on a distinct computer having a user, and wherein the group includes the users of the distinct computers.

72. (New) The method of claim 66 wherein each of the characterization systems executes on a distinct computer, and wherein the group includes the distinct computers.

73. (New) The method of claim 66 wherein the current state aspect represented by the indicated one state attribute includes information about a physical environment shared by the members of the group.

74. (New) The method of claim 66 wherein the current state aspect represented by the indicated one state attribute includes information about a cyber-environment shared by the members of the group.

75. (New) The method of claim 66 wherein the characterization systems are hierarchically organized such that the identified characterization systems are supervisors each having an associated group of other subordinate characterization systems, and wherein the current state aspect represented by the indicated one state attribute is related to a current state of the hierarchical organization.

76. (New) The method of claim 66 wherein each of the characterization systems is specialized to model a portion of a current state of a single user, and wherein the current state aspect represented by the indicated one state attribute is an aspect of the current state of the user that is represented by a combination of information for multiple of the modeled portions.

77. (New) The method of claim 66 wherein the generated value represents an aggregation of the gathered state information.

78. (New) The method of claim 66 wherein the generated value represents a collective aspect of the members.

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79. (New) A method in a first computer for providing information about a state of a ~~group~~ that is represented with multiple attributes, the group having multiple members, the method comprising:

receiving an indication of one of the attributes that models a first aspect of the state of the group;

determining multiple characterization modules that each have access to aspects of state information for at least one of the members of the group such that the aspects are related to the indicated one attribute; and

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gathering information about the aspects of the state information that are related to the indicated one attribute from the determined characterization modules so that a value for the indicated one attribute can be generated based on the gathered information.

80. (New) The method of claim 79 including:

generating a value for the indicated one attribute based on the gathered information; and

providing an indication of the generated value of the one attribute.

81. (New) The method of claim 79 wherein each of the determined characterization modules executes on a distinct computer and models a state of a user of that computer, and wherein the group includes the users of the distinct computers.

82. (New) The method of claim 79 wherein each of the determined characterization modules executes on a distinct computer and models a state of that computer, and wherein the group includes the distinct computers.

83. (New) The method of claim 79 wherein the group includes the determined characterization modules.

84. (New) The method of claim 79 wherein the first state aspect modeled by the one attribute represents information about a physical environment common to computers on which the determined characterization modules are executing or common to users of those computers.

85. (New) The method of claim 79 wherein the first state aspect modeled by the one attribute represents information about a cyber-environment common to computers on which the determined characterization modules are executing or common to users of those computers.

86. (New) The method of claim 79 wherein the determined characterization modules are hierarchically organized such that at least some of the characterization modules are supervisors each having an associated group of other subordinate characterization modules, and wherein the first state aspect modeled by the one attribute is related to a state of the hierarchical organization.

87. (New) The method of claim 79 wherein each of the determined characterization modules is specialized to model a portion of a state of a single user, and wherein the first state aspect modeled by the one attribute is related to a state of the user that is represented by a combination of information for multiple of the modeled portions.

88. (New) The method of claim 79 wherein the first state aspect modeled by the one attribute represents an aggregation of state information for each of the members of the group.

89. (New) The method of claim 79 wherein the first state aspect modeled by the one attribute represents a collective aspect of the members of the group.

90. (New) The method of claim 79 wherein the first state aspect modeled by the one attribute represents state information for a selected subset of the members of the group.

91. (New) The method of claim 79 wherein the first state aspect modeled by the one attribute represents a state shared by each of the members of the group.

92. (New) The method of claim 79 wherein the modeled first aspect of the state of the group reflects a current state of the group.

93. (New) The method of claim 79 wherein the received indication of the one attribute additionally includes an indication of characterization modules, and wherein the determining of the characterization modules includes selecting the indicated characterization modules.

94. (New) The method of claim 79 including:
determining whether the information gathered from one of the determined characterization modules satisfies a criteria; and
when it is determined that the gathered information does not satisfy the criteria, obtaining additional information from the one determined characterization module that satisfies the criteria and replacing the gathered information from the one determined characterization module with the obtained additional information.

95. (New) The method of claim 79 wherein the determined characterization modules are remote from each other such that the gathering of the information involves gathering distributed information.

96. (New) The method of claim 79 wherein a user of the first computer is one of the members of the group.

97. (New) The method of claim 79 wherein the first computer is one of the members of the group.

98. (New) The method of claim 79 wherein the indicated one attribute models information about a mental state of the members of the group.

99. (New) The method of claim 79 wherein the indicated one attribute models information about a physical environment of the members of the group.

100. (New) The method of claim 79 wherein the indicated one attribute models information about a cyber-environment of the members of the group.

101. (New) The method of claim 79 wherein the indicated one attribute models a current prediction about a future state.

102. (New) The method of claim 79 including receiving a request from a client for a value of the indicated one attribute and supplying the value to the client.

103. (New) The method of claim 102 wherein receiving of the supplied value by the client prompts the client to present information to a user.

104. (New) The method of claim 79 wherein the determining of the multiple characterization modules is based on previously received registration messages from each of the multiple characterization modules that indicate the accessible aspects.

105. (New) The method of claim 79 wherein security information must be received for a determined characterization module before any information is accepted from that characterization module.

106. (New) The method of claim 79 including providing security information to at least some of the determined characterization modules to facilitate the gathering of the information from those determined characterization modules.

107. (New) The method of claim 79 including, under control of a client, generating the value for the indicated one attribute after receiving the gathered information.

108. (New) A computer-readable medium whose contents cause a computing device to provide information about a state of a group that is represented with multiple state attributes, the group having multiple members, by performing a method comprising:

receiving an indication of one of the state attributes that models a first aspect of the state of the group;

determining multiple modules that each have access to aspects of state information for a member of the group such that the aspects are related to the indicated one attribute;

gathering information about the aspects of the state information that are related to the indicated one attribute from the determined modules; and

providing the gathered information to a client so that a value for the indicated one attribute can be generated based on the gathered information.

109. (New) The computer-readable medium of claim 108 wherein the computer-readable medium is a memory of the computing device.

110. (New) The computer-readable medium of claim 108 wherein the computer-readable medium is a data transmission medium transmitting a generated data signal containing the contents.

111. (New) A computing device for providing information about a state of a group that is represented with multiple attributes, the group having multiple members, comprising:

a receiver component that is capable of receiving an indication of one of the attributes that models a first aspect of the state of the group; and

a group state component that is capable of determining multiple characterization modules that each have access to aspects of state information for at least one of the members of the group such that the aspects are related to the indicated one attribute and of gathering information about the aspects of the state information that are related to the indicated one attribute from the determined characterization modules so that a value for the indicated one attribute can be generated based on the gathered information.

112. (New) The computing device of claim 111 wherein the receiver component and the group state component are executing in memory of the computing device.

113. (New) The computing device of claim 111 further comprising multiple sources and multiple clients executing in memory of the computing device.

114. (New) A computing device for providing information about a state of a group that is represented with multiple attributes, the group having multiple members, comprising:

means for receiving an indication of one of the attributes that models a first aspect of the state of the group;

means for determining multiple characterization modules that each have access to aspects of state information for at least one of the members of the group such that the aspects are related to the indicated one attribute; and

means for gathering information about the aspects of the state information that are related to the indicated one attribute from the determined characterization

modules so that a value for the indicated one attribute can be generated based on the gathered information.

115. (New) A method in a portable computer for providing information about a shared context of a group of multiple users of portable computers, the context of the group modeled with multiple context attributes, the method comprising:

receiving an indication of one of the context attributes that represents a characteristic of the shared context of the group;

determining at least some of the multiple users whose contexts are related to the represented characteristic;

for each of the determined users, identifying a module that can provide context information for that user;

gathering from the identified modules context information for the determined users that is related to the represented characteristic; and

providing the gathered context information.

116. (New) The method of claim 115 including generating a value for the one context attribute based on the gathered context information.

117. (New) The method of claim 115 including modeling the represented characteristic of the shared context of the group based on the gathered context information.

118. (New) The method of claim 115 wherein the context that is represented is a current context.

119. (New) The method of claim 115 wherein receiving of the provided context information by a client prompts the client to present information to a user.

120. (New) The method of claim 115 wherein each of the identified modules executes on a distinct computer and models a context of a user of that computer, and wherein the multiple users include the users of the distinct computers.

121. (New) The method of claim 115 wherein the represented characteristic reflects a physical environment shared by the multiple users.

122. (New) The method of claim 115 wherein the represented characteristic reflects a cyber-environment shared by the multiple users.

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123. (New) The method of claim 115 wherein the represented characteristic reflects a mental state shared by the multiple users.

124. (New) The method of claim 115 wherein the represented characteristic reflects an emotional state shared by the multiple users.

125. (New) The method of claim 115 wherein the represented characteristic reflects a physical state shared by the multiple users.

126. (New) The method of claim 115 wherein the multiple users are part of a hierarchical organization, and wherein the represented characteristic reflects a context of the hierarchical organization.

127. (New) The method of claim 115 wherein the represented characteristic reflects an aggregation of context information for the users.

128. (New) The method of claim 115 wherein the represented characteristic reflects a collective characteristic of the users.

129. (New) The method of claim 115 wherein the represented characteristic reflects information for a selected subset of the users.

130. (New) The method of claim 115 wherein each of the identified modules is specialized to model the same aspect of a context of a user, and wherein the represented characteristic reflects an aggregate of the modeled aspects of the contexts of the multiple users.

131. (New) A computer-readable medium containing instructions that when executed cause a computing device to provide information about a context of a group of multiple users that is modeled with multiple context attributes, by:

receiving an indication of one of the context attributes that represents a characteristic of the context of the group;

determining at least some of the multiple users whose contexts are related to the represented characteristic;

for each of the determined users, identifying a module that can provide context information for that user;

gathering from the identified modules context information for the determined users that is related to the represented characteristic; and

modeling the represented characteristic of the context of the group based on the gathered context information.

132. (New) A portable computer for providing information about a context of a group of multiple users, the context of the group modeled with multiple context attributes, comprising:

an input module capable of receiving an indication of one of the context attributes that represents a characteristic of the shared context of the group; and

a gatherer component capable of determining at least some of the multiple users whose contexts are related to the represented characteristic, of identifying a module for each of the determined users that can provide context information for that user, and of